

**REMARKS**

**I. Specification Amendments**

By the foregoing amendments to the specification, the specification has been amended to correct formal matters.

No new matter has been added, and entry of the foregoing amendments to the specification is respectfully requested.

**II. Claim Amendments**

By the foregoing amendments to the claims, claim 52 has been amended to correct formal matters. These amendments are merely editorial in nature and are not intended to change the scope of the claims or any elements recited therein.

The amendments to the claims have been made without prejudice or disclaimer to any subject matter recited or canceled herein. Applicants reserve the right to file one or more continuation and/or divisional applications directed to any canceled subject matter. No new matter has been added, and entry of the foregoing amendments to the claims is respectfully requested.

**III. Response to Specification Objections**

At page 2 of the Office Action, the specification has been objected to because the term “polyethylene resins” has been repeated twice in the last line of page 81.

The specification has been amended herein by deleting one of the terms. Accordingly, Applicants respectfully request reconsideration and withdrawal of this objection.

**IV. Response to Claim Objections**

At pages 2-3 of the Office Action, claim 52 has been objected to for containing two misspelled words.

The claims have been amended herein to correct these editorial errors. Accordingly, Applicants respectfully request reconsideration and withdrawal of this objection.

**V. Response to Claim Rejections Under 35 U.S.C. § 112, Second Paragraph**

At page 3 of the Office Action, claims 52 and 58-62 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

Not to acquiesce to the rejection, but to advance prosecution, claim 52 has been amended herein by adding a comma after “cyclic olefin copolymers”, to clarify that the claim encompasses any of the materials in the Markush group that have undergone surface modification.

Applicants submit that the claims as amended particularly point out and distinctly claim the subject matter Applicants regard as the invention. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

**V. Response to Claim Rejections Under 35 U.S.C. § 103**

**A.** Claims 52, 58 and 60-62 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Elkins (US 6,316,186, granted November 13, 2001), Fixe et al. (Functionalization of poly(methyl methacrylate) (PMMA) as a substrate for DNA microarrays, 2004, Nucleic Acids Research, Vol. 32, e9, pp 1-8, published online January 12, 2004), and Chazan et al. (US Patent Application Publication No. 2002/0025280, published February 28, 2002).

**B.** Claims 52 and 58-62 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Elkins (US 6,316,186, granted November 13, 2001), Fixe et al. (Functionalization of poly(methyl methacrylate) (PMMA) as a substrate for DNA microarrays, 2004, Nucleic Acids Research, Vol. 32, e9, pp 1-8, published online January 12, 2004), Yamagata et al. (EP 1371990, published November 12, 2003, provided by applicants in IDS), and Chazan et al. (US Patent Application Publication 2002/0025280, published February 28, 2002).

These rejections are respectfully traversed.

The present claims recite a method that takes advantage of the different properties of nucleic acids as compared to antibodies. In particular, nucleic acids are more heat resistant than antibodies. Thus, the nucleic acids are covalently bound to the resin members before the resin members are joined together by thermal fusion. Next, after thermal fusion, the heat-sensitive antibodies are immobilized on the resin members by interposing nucleic acids. The present

invention can therefore be characterized as adopting a manufacturing process including immobilization, in a sequential order, of nucleic acids and antibodies. This method avoids subjecting the antibodies to damaging thermal influence during manufacture of an analytical device that can be used to detect antigens.

The references identified by the Examiner, taken alone or in the cited combinations, do not teach or suggest the subject matter of the present claims. For example, in contrast to the present invention the references are not directed to analytical devices for detection of antigens. In addition, the references do not teach or suggest the sequential order of immobilization as recited in the present claims and discussed above.

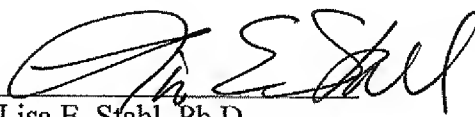
In view of the above, Accordingly, Applicants respectfully request reconsideration and withdrawal of these rejections.

#### CONCLUSION

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.

In the event that there are any questions related to this response, or the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney at the below-listed telephone number concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

By:   
Lisa E. Stahl, Ph.D.  
Registration No. 56,704

BACON & THOMAS PLLC  
625 Slaters Lane, Fourth Floor  
Alexandria, Virginia 22314-1176  
703.683.0500

Date: July 14, 2011